

## XP-002269189

AN - 1997-381275 [35]  
AP - JP19950327564 19951215  
CPY - HARA-I  
- POKK  
DC - B06 B07  
DR - 1755-U  
FS - CPI  
IC - A61K9/50 ; B01J2/00 ; B01J13/10 ; B01J13/14 ; C01B25/32  
MC - B04-C02C B04-C02D B04-N04 B05-B02A3 B12-M11E B14-H01  
M2 - [01] A220 A940 B115 B701 B713 B720 B815 B831 C101 C108 C802 C804 C805  
C807 M411 M431 M782 M903 M904 M910 P633 R033; R01755-M; 1755-U  
- [02] A220 A940 B115 B701 B713 B720 B815 B831 C101 C108 C550 C730 C802  
C804 C805 C807 M411 M431 M782 M903 M904 P633 R033; R03521-M  
PA - (HARA-I) HARADA N  
- (POKK) POLA CHEM IND INC  
PN - JP9165328 A 19970624 DW199735 A61K9/50 005pp  
PR - JP19950327564 19951215  
XA - C1997-122331  
XIC - A61K-009/50 ; B01J-002/00 ; B01J-013/10 ; B01J-013/14 ; C01B-025/32  
AB - J09165328 Microspheres containing a water insoluble metal phosphate,  
particularly hydroxyapatite or calcium phosphate, and having average  
diameters of 0.01-10 mm are used as a blood vessel occlusion agent.  
The microspheres are prepared by dropping a solution containing a  
water soluble phosphate, an organic polymer, particularly sodium  
alginate, xanthan gum, locust bean gum, sodium carboxy-dextran,  
carrageenan and/or pectin, and water in an aqueous hardener solution  
containing a water soluble metal salt forming water insoluble  
phosphate, and precipitating spheres containing a water insoluble  
metal phosphate and organic polymer.  
- USE - Used for treatment of cancer in deep organs, particularly cancer  
of pancreas, liver, gall bladder or spleen, especially used as  
injection preparations.  
- ADVANTAGE - Inhibition of nutrient supply to cancer foci is effected  
by obstructing blood vessels without injuring the inner surface of the  
blood vessel. Hydrophilic organic polymer produces spheres which  
absorb water soluble medicines within the spheres as a carrier of  
anticancer agent.  
- In an example, 0.1M (NH<sub>4</sub>)<sub>2</sub>HPO<sub>4</sub> solution containing 2 wt.% sodium  
alginate was dropped in 0.5 M Ca(NO<sub>3</sub>)<sub>2</sub> adjusted to pH 9 with Et<sub>3</sub>N with  
an injection needle. The spheres were collected to give spheres having  
diameter of 400 microns. In abdominal cavity of anaesthetised male  
Wistar rat, 21 mg of <sup>32</sup>P-labelled spheres were embedded and the  
radioactivity of organs were determined. The radioactivity of liver  
was 5, 20, 18 and 11 at 1, 6, 24 and 48 hours. The corresponding rate  
in kidneys and lungs was 5, 1, 7, 15 and 11, and 1, 6, 9, and 8,  
respectively, indicating remaining in abdominal cavity and effective  
occlusion of blood vessels.(Dwg.0/0)  
CN - R01755-M R03521-M  
DRL - 1755-U  
IW - MICROSPHERE TREAT CANCER DEEP ORGAN CONTAIN WATER INSOLUBLE METAL  
PHOSPHATE BLOOD VESSEL OCCLUDE

**IKW - MICROSPHERE TREAT CANCER DEEP ORGAN CONTAIN WATER INSOLUBLE METAL  
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**NC - 001**

**OPD - 1995-12-15**

**ORD - 1997-06-24**

**PAW - (HARA-I) HARADA N**

**- (POKK ) POLA CHEM IND INC**

**TI - Microspheres for treating cancer in deep organs - contain water  
insoluble metal phosphate for blood vessel occlusion**